Debug noise simulation in wirecell 0.23.0

- redmine issue reported by M. Wang: https://cdcvs.fnal.gov/redmine/issues/27898
  - v0_19_01 (FFT bug): model trained on, 99%
  - v0_20_0 (FFT fixing): 11%
  - v0_23_0: 0%

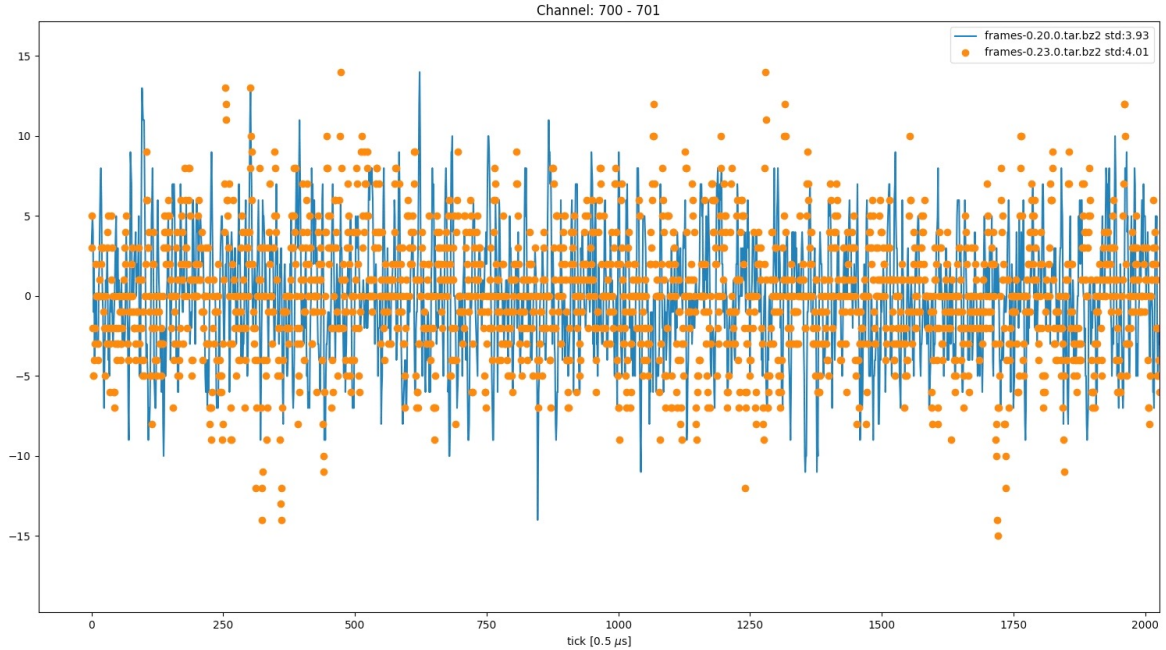
- Causes:
  - channel correlation for several time bins at start and end
  - slightly changed spectra

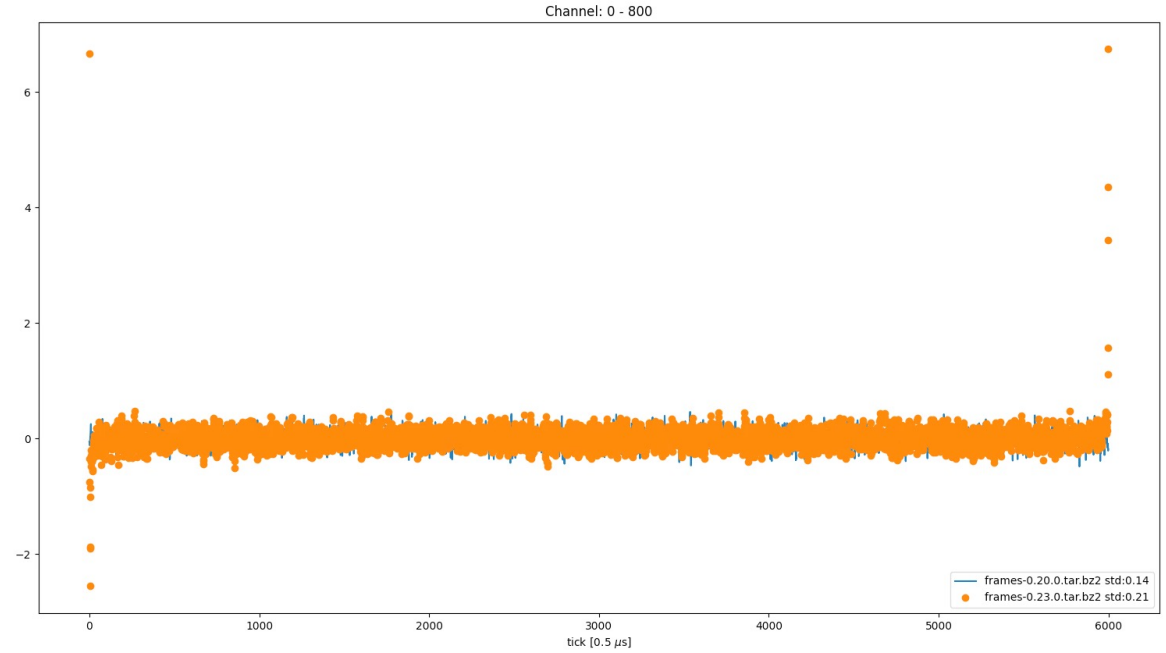
- Impact
  - SigProc (recob::wire) not observed
  - rawDigit: should be limited
    - more likely to be captured by AI/ML methods

waveform comparison 0.20.0 → 0.23.0

single channel comparison looks OK
- e.g., std: 3.93 vs. 4.01

averaged waveform looks strange at two ends
- correlations





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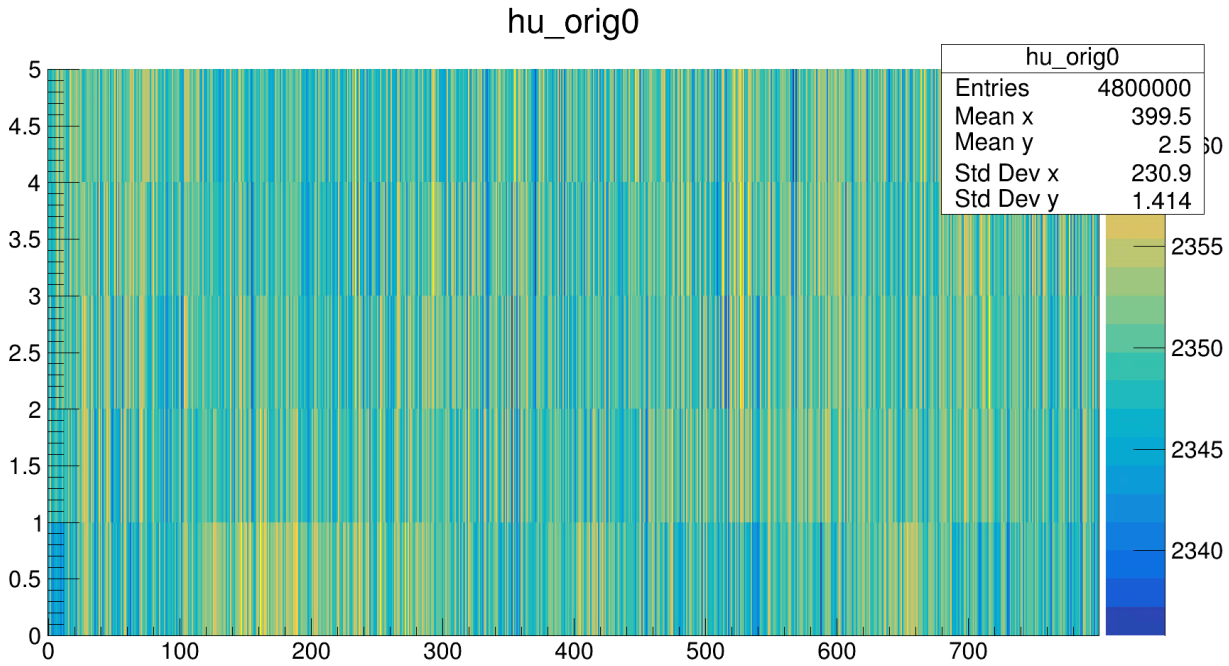
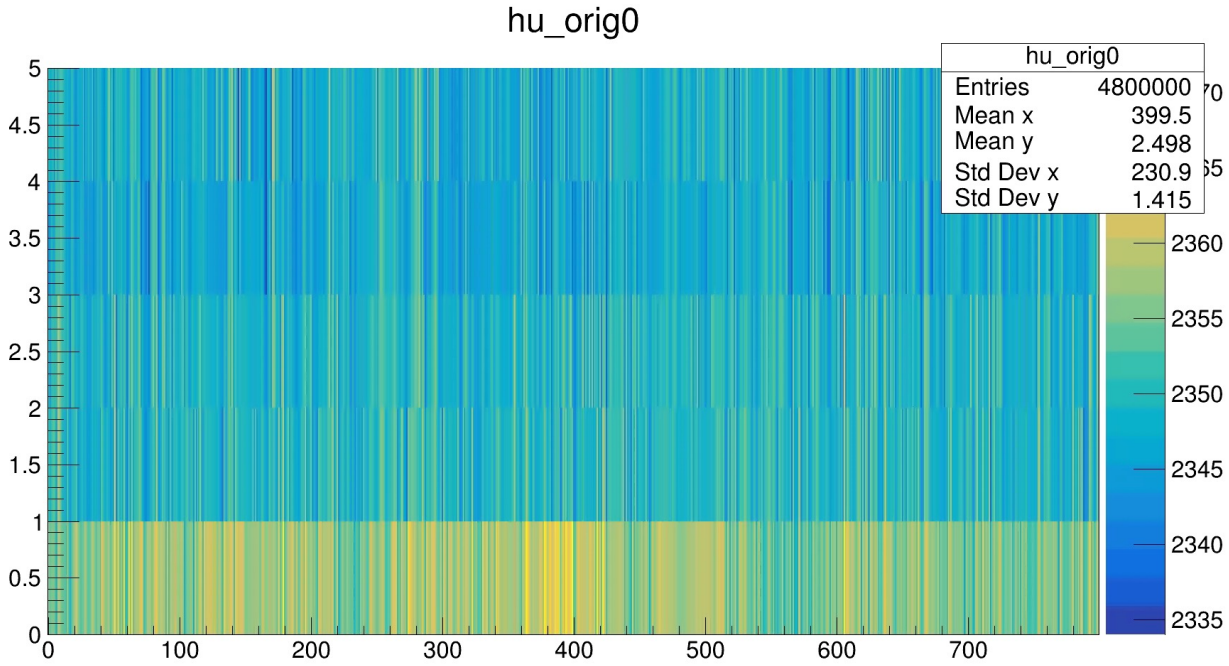
2D comparison

0.20.0



0.23.0



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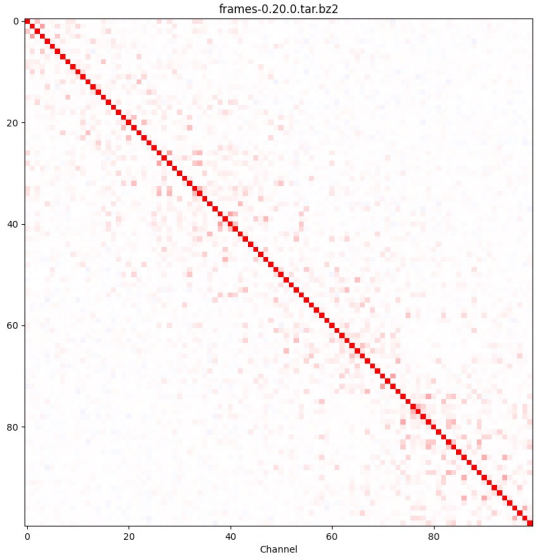
channel correlation

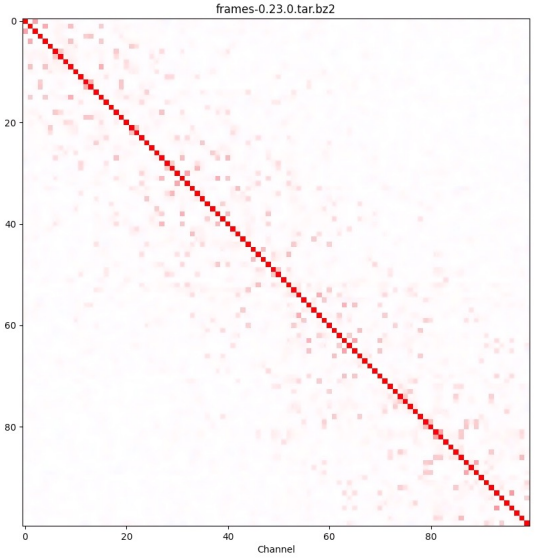
0.20.0

0.23.0

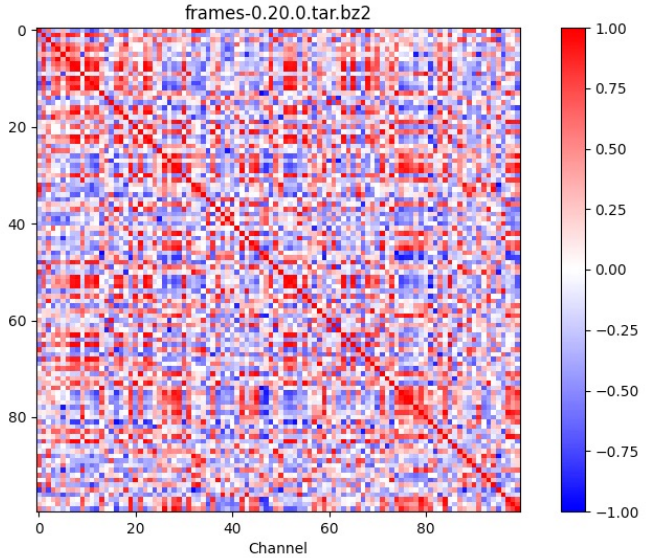
latest in dev.

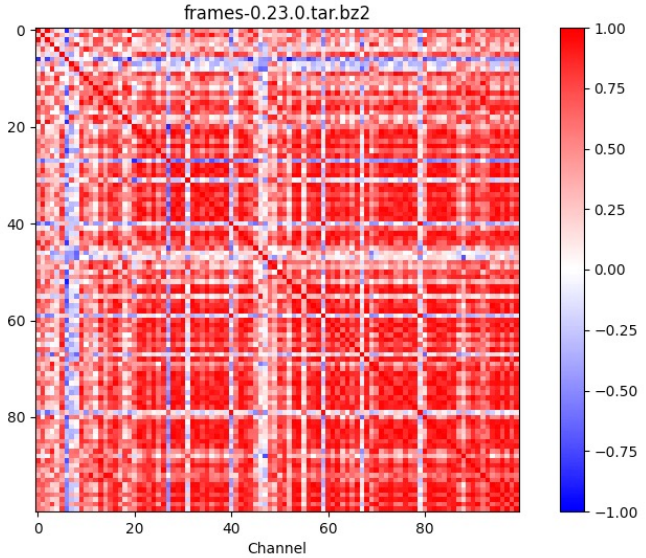
all time bins

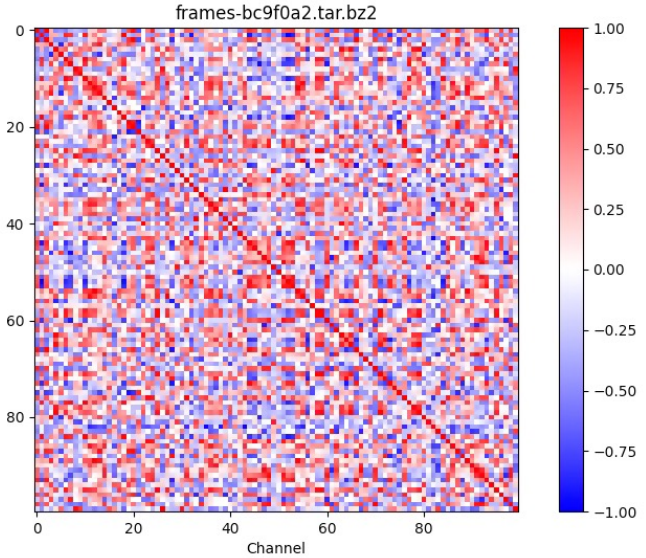




first 5 time bins







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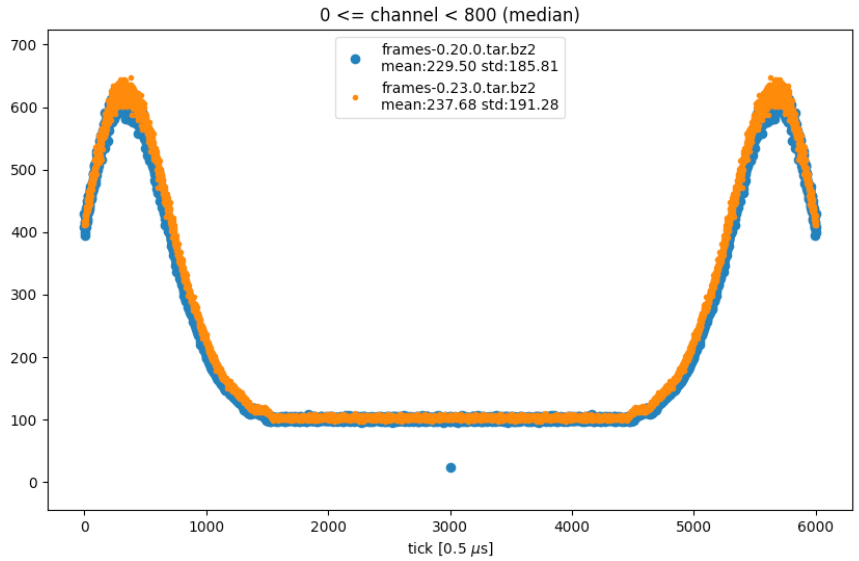
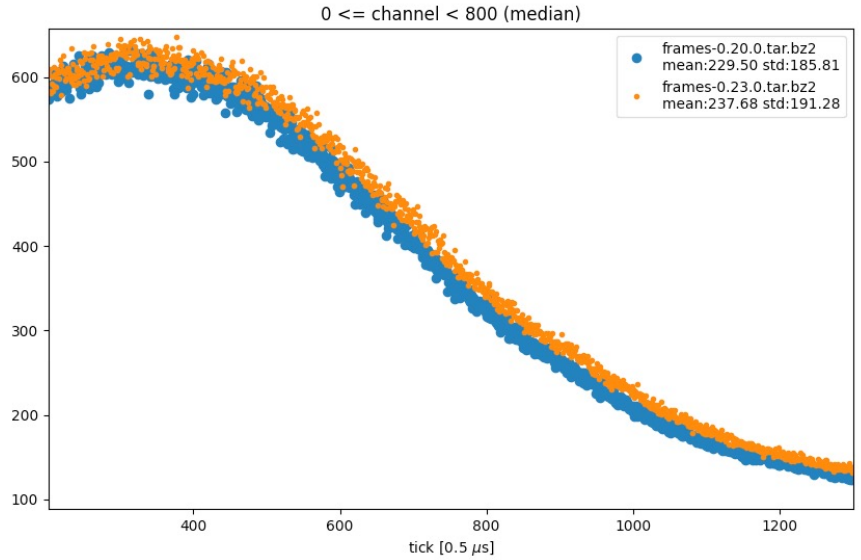
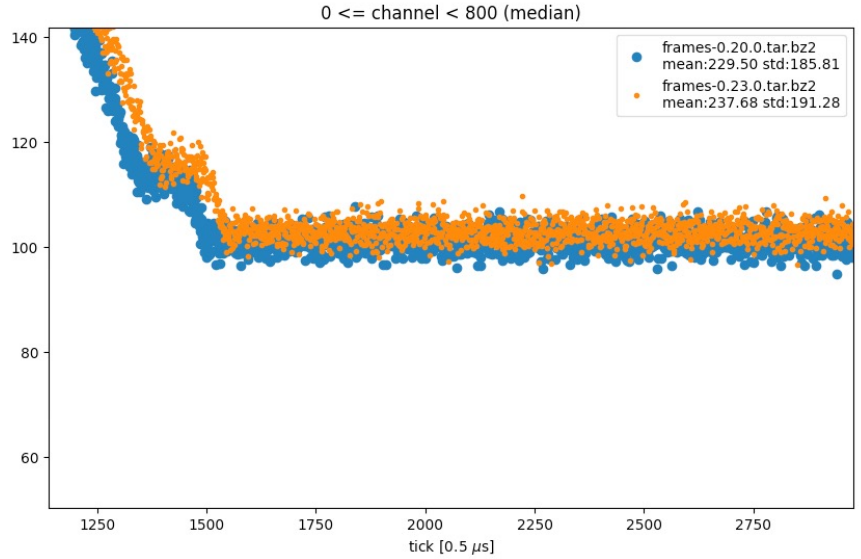
small spectra shift 0.20.0 → 0.23.0

- Original tests were done based on course checks
- When zoomed in some small but systematic shift was found - WIP



please ignore the x-axis label for now





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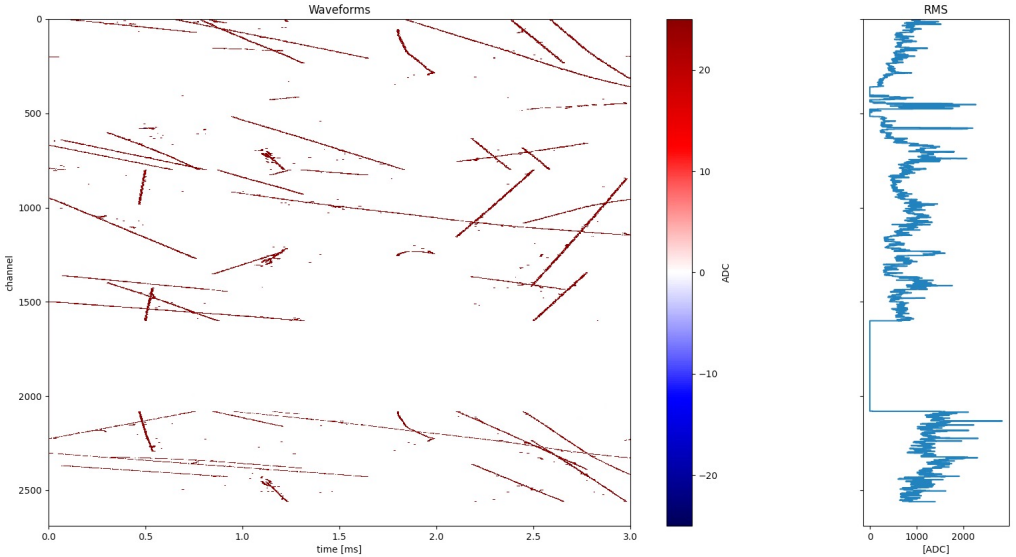
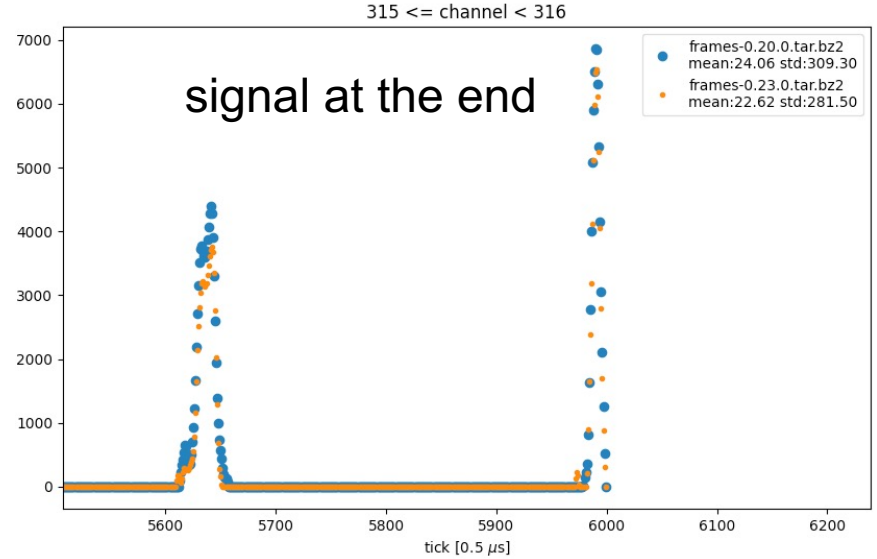
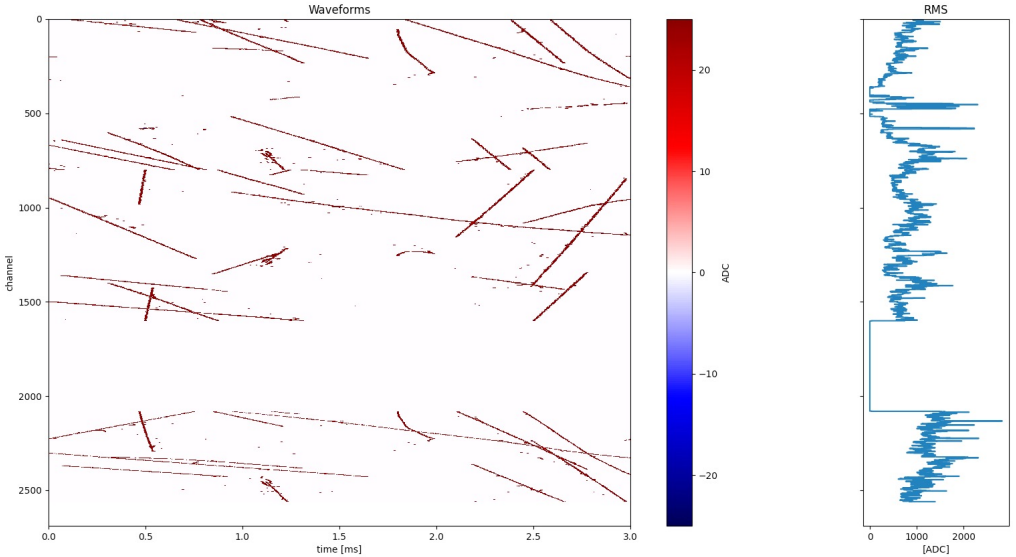
impact on SigProc waveforms

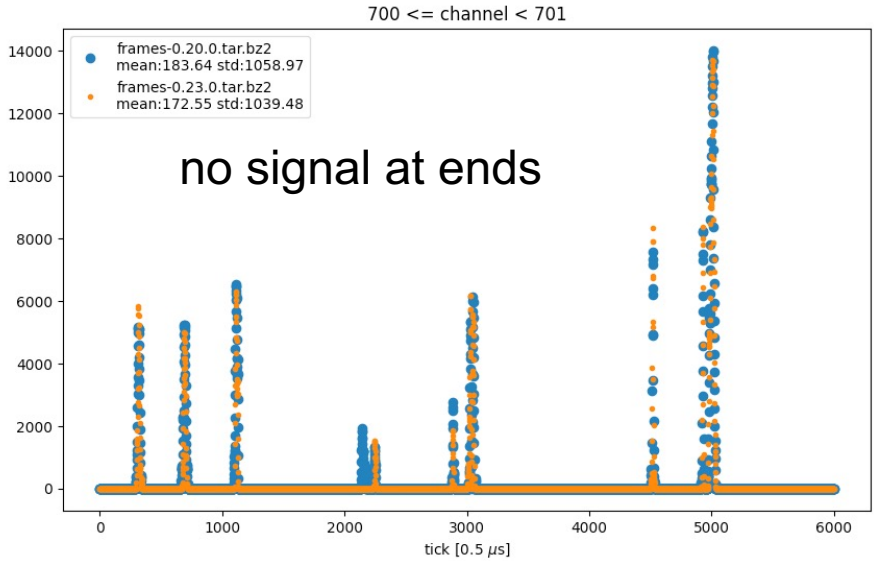
0.20.0





0.23.0





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